FIG.1

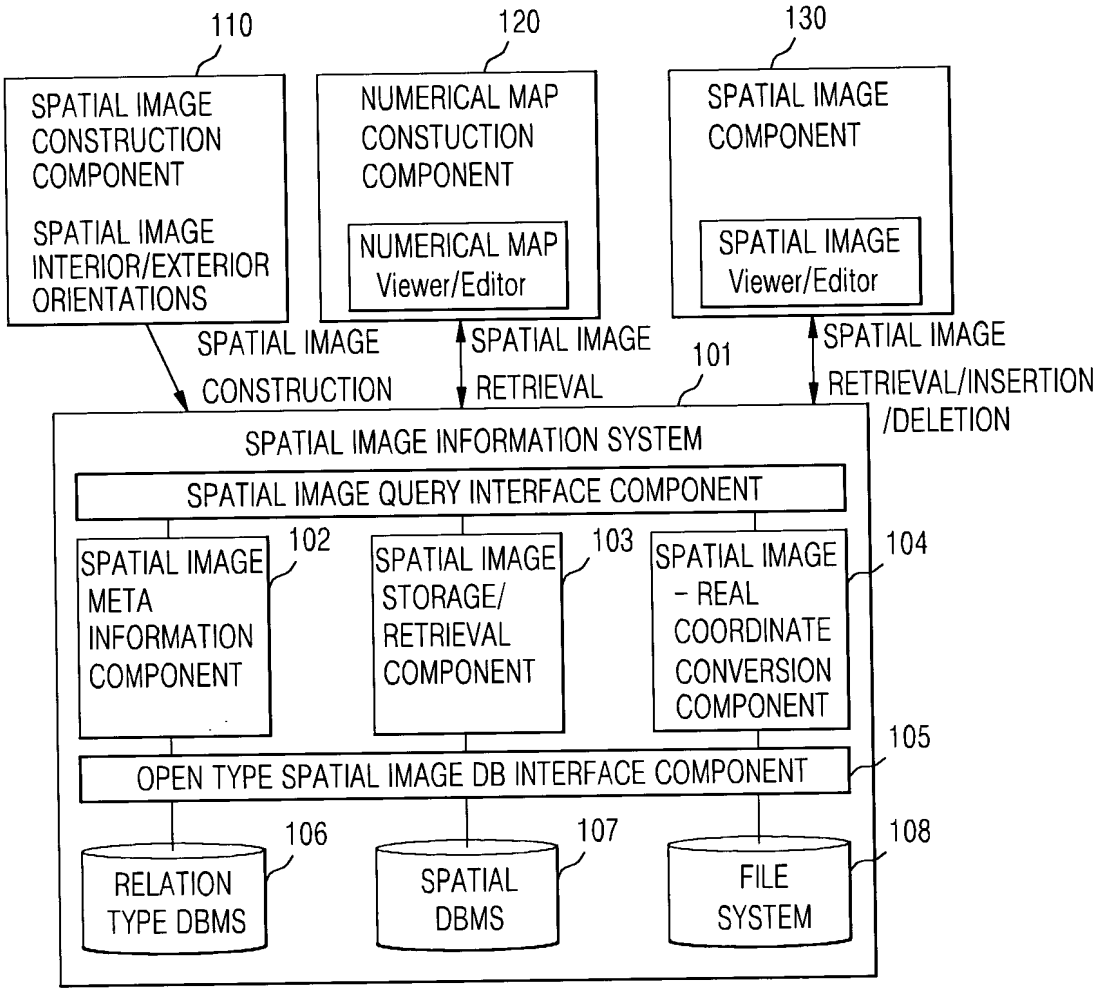
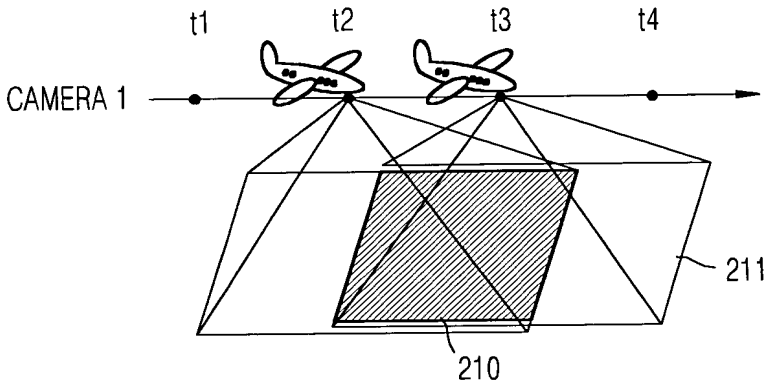
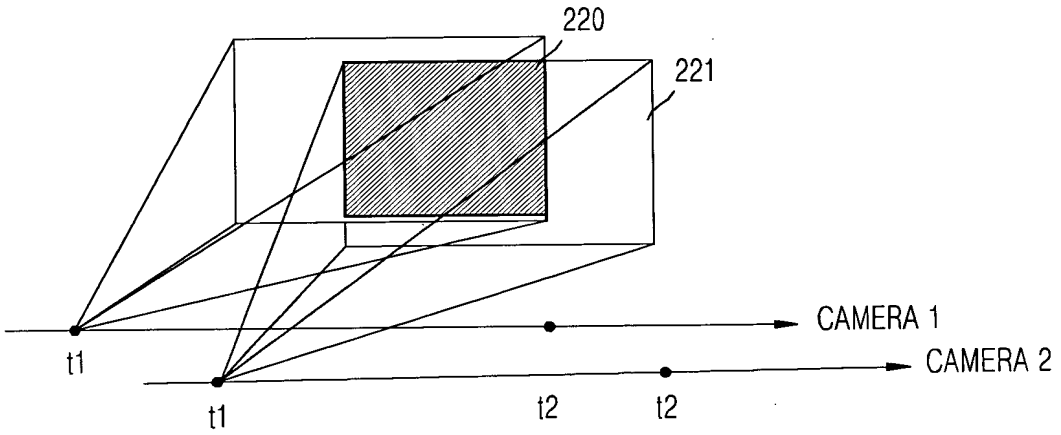

110
120
130
SPATIAL IMAGE CONSTRUCTION COMPONENT
SPATIAL IMAGE INTERIOR/EXTERIOR ORIENTATIONS
NUMERICAL MAP CONSTUCTION COMPONENT
NUMERICAL MAP Viewer/Editor
SPATIAL IMAGE COMPONENT
SPATIAL IMAGE Viewer/Editor
SPATIAL IMAGE CONSTRUCTION
SPATIAL IMAGE RETRIEVAL
SPATIAL IMAGE RETRIEVAL/INSERTION /DELETION
101
SPATIAL IMAGE INFORMATION SYSTEM
SPATIAL IMAGE QUERY INTERFACE COMPONENT
102
SPATIAL IMAGE META INFORMATION COMPONENT
103
SPATIAL IMAGE STORAGE/ RETRIEVAL COMPONENT
104
SPATIAL IMAGE - REAL COORDINATE CONVERSION COMPONENT
105
OPEN TYPE SPATIAL IMAGE DB INTERFACE COMPONENT
106
RELATION TYPE DBMS
107
SPATIAL DBMS
108
FILE SYSTEM

FIG.2

(a)



(b)



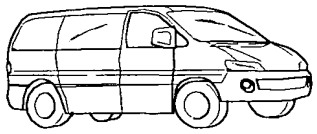


FIG.3

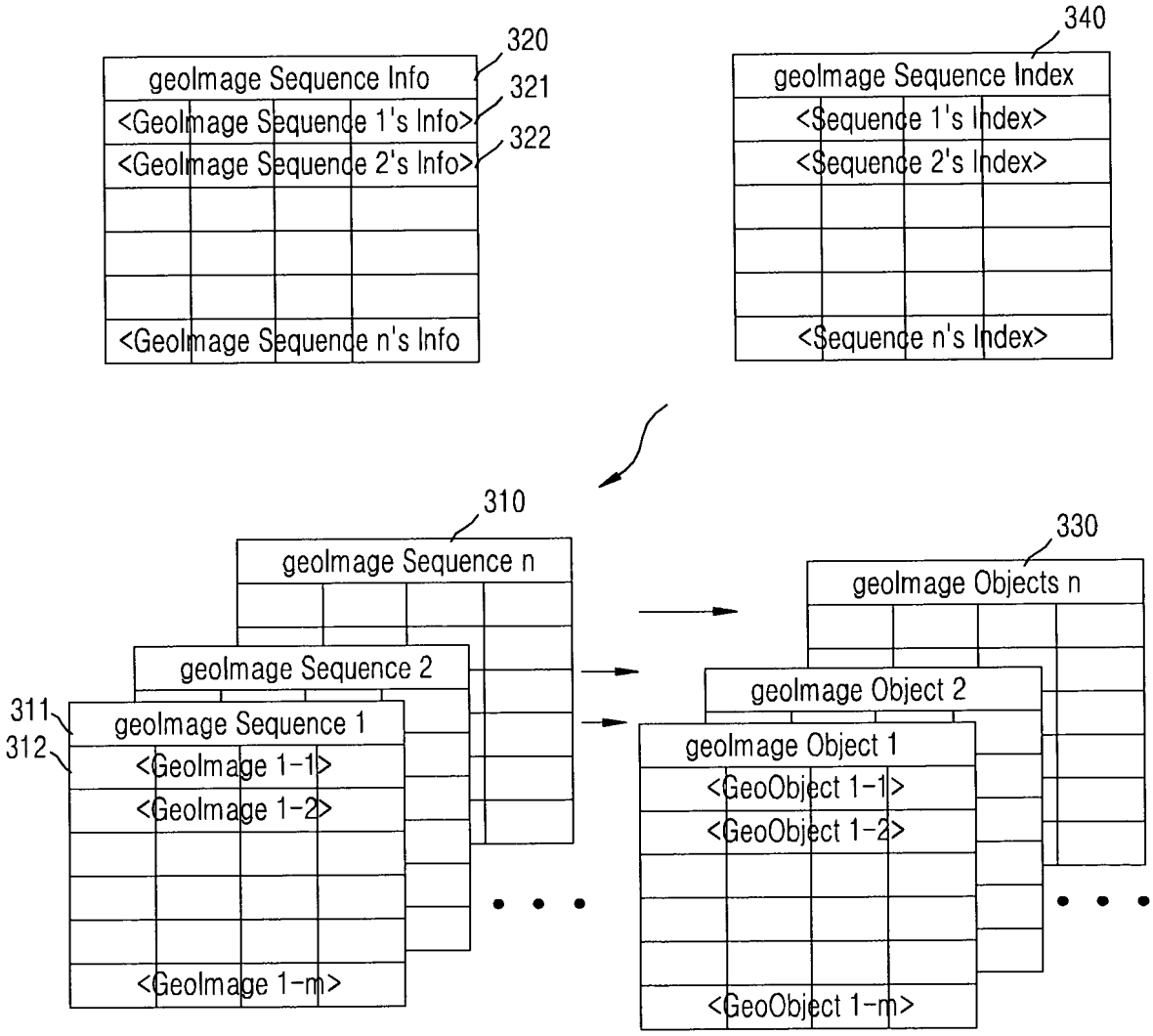

320
geoImage Sequence Info
321
<GeoImage Sequence 1's Info>
322
<GeoImage Sequence 2's Info>
<GeoImage Sequence n's Info
340
geoImage Sequence Index
<Sequence 1's Index>
<Sequence 2's Index>
<Sequence n's Index>
310
geoImage Sequence n
geoImage Sequence 2
311
geoImage Sequence 1
312
<GeoImage 1-1>
<GeoImage 1-2>
<GeoImage 1-m>
330
geoImage Objects n
geoImage Object 2
geoImage Object 1
<GeoObject 1-1>
<GeoObject 1-2>
<GeoObject 1-m>

FIG. 4

GeoImageSequenceInfo

(a)

GeoImageSequenceID	CreationTime	CreationType	NumOfCamera	InteriorOrieentation	MBR	DataSource

GeoImageSequenceIndexes

(b)

GeoImageSequenceID	CameraNumber	fromTime	toTime	MBR	SequenceIndexType	SequenceIndex

CameraPath	CameraTimeIndex	ViewAreaType	ViewAreaIndex

GeoImageSequence<GeoImageSquenceID>

(c)

GeoImageID	CameraNumber	ViewArea	CreationTime	X	Y	Z	roll	pitch	refGeoImage	MBR	rowData

GeoImage<GeoImageSquenceID>

(d)

GeoObjectID	GeoImageID	ObjectType	MBR	ObjectShape

GeoObjectID<ObjectTypeName>

(e)

GeoObjectID	ObjectType	ObjectName	ObjectAttribute $_1$	...	ObjectAttribute $_n$

FIG.5

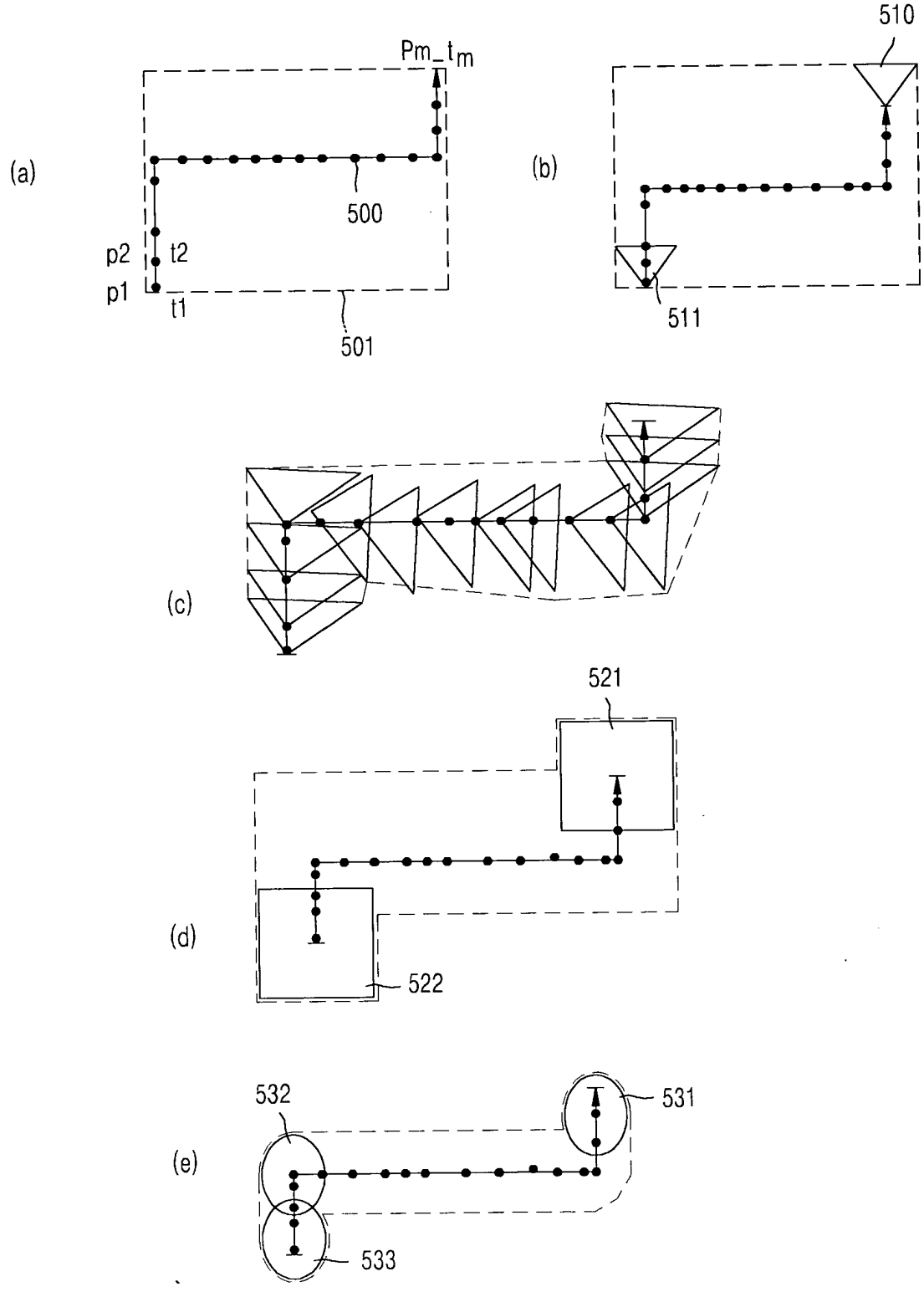


FIG.6

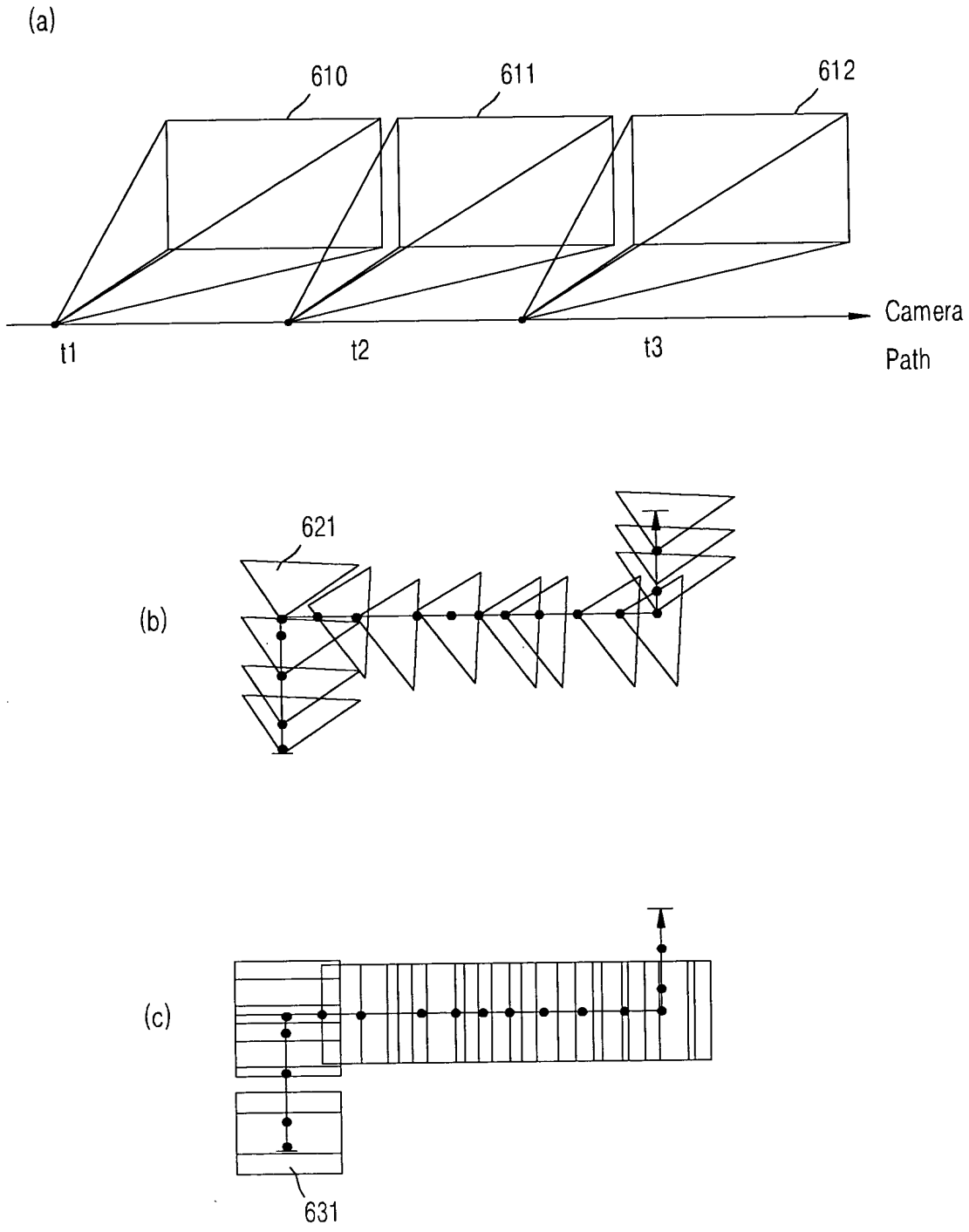
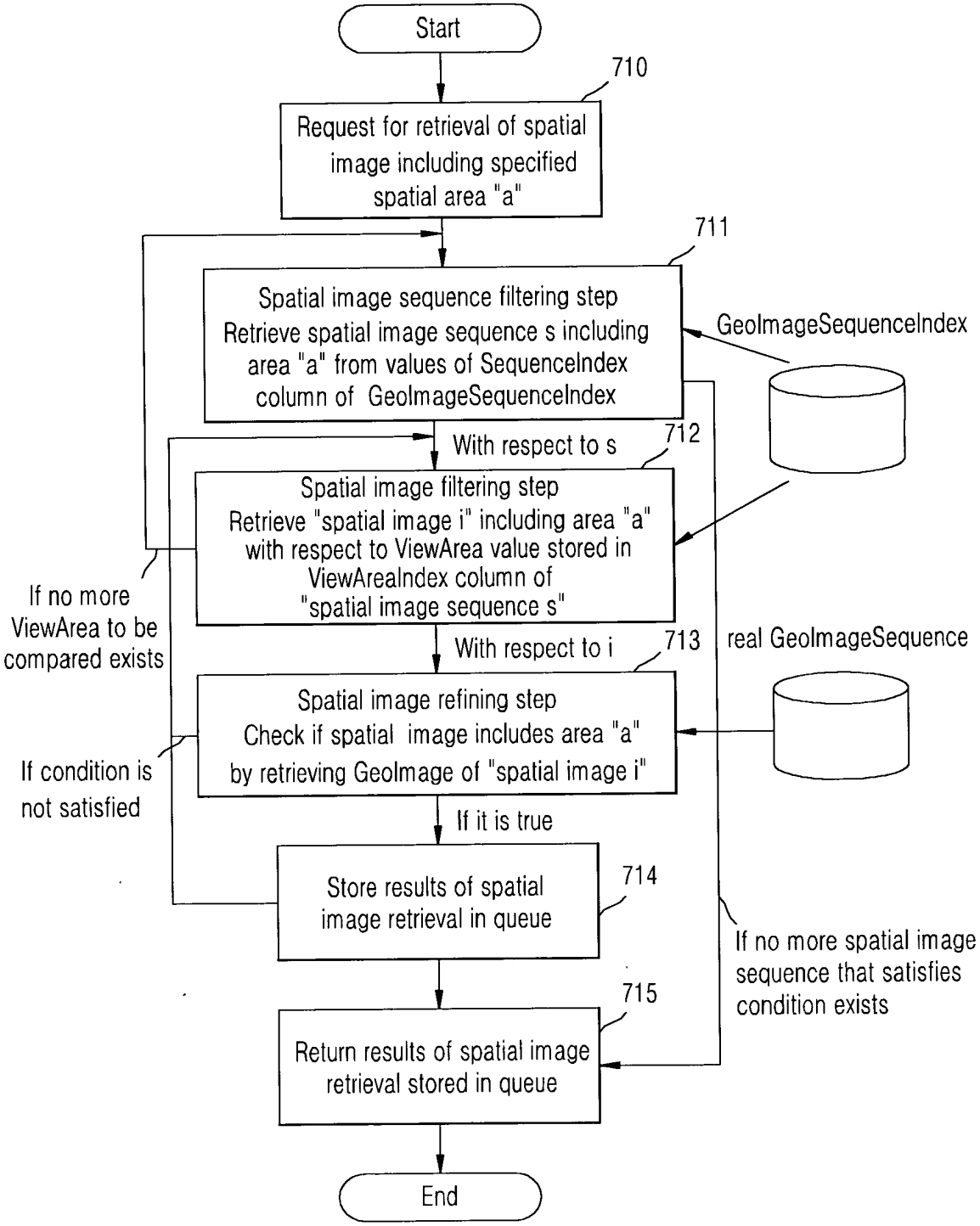


FIG.7


Start
710
Request for retrieval of spatial image including specified spatial area "a"
711
Spatial image sequence filtering step
Retrieve spatial image sequence s including area "a" from values of SequenceIndex column of GeoImageSequenceIndex
GeoImageSequenceIndex
With respect to s
712
Spatial image filtering step
Retrieve "spatial image i" including area "a" with respect to ViewArea value stored in ViewAreaIndex column of "spatial image sequence s"
If no more ViewArea to be compared exists
With respect to i
713
real GeoImageSequence
Spatial image refining step
Check if spatial image includes area "a" by retrieving GeoImage of "spatial image i"
If condition is not satisfied
If it is true
Store results of spatial image retrieval in queue
714
If no more spatial image sequence that satisfies condition exists
715
Return results of spatial image retrieval stored in queue
End